

V. OPERATIONS AND MAINTENANCE SUMMARY

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V. OPERATIONS AND MAINTENANCE SUMMARY

The Hallelujah Junction Wildlife Area Land Management Plan recommends proactive ecosystem management at a level that is more intensive than in the past. Partnerships with local educational institutions, conservation agencies and community groups can help the California Department of Fish and Game meet the biological goals in this plan, provided the department commits additional budgetary resources of its own as a capacity building measure. The advancement of scientific knowledge regarding invasive species control and restoration of native vegetation will likely result in new techniques and opportunities for more effective wildlife management, and will further the understanding of issues specific to the site and region. To respond to changing conditions and increasing knowledge, this plan will need to be reviewed and revised periodically.



Inspecting previous burn before spring growth. SEI

A. Staffing and Equipment

1. Personnel Needs

At the time the Hallelujah Junction Wildlife Area land management plan (HJWA LMP) was prepared, management oversight and maintenance activities were conducted by an Associate Wildlife Biologist (AWB) and a Fish and Wildlife Technician (FWT). The AWB is based in Graeagle, California, and has additional management responsibilities at the Antelope Valley/Smithneck Creek Wildlife Areas, Crocker Meadow Wildlife Area, and Chilcoot Wildlife Area in Sierra and Plumas counties.

Currently, the staffing is allocated as follows:

<i>Program Management</i>	<i>Area Manager/AWB</i>	<i>0.25PY</i>
<i>Maintenance</i>	<i>Fish and Wildlife Technician</i>	<i>0.75PY</i>

To adequately support the HJWA and to perform the tasks identified in this LMP, a combination of additional program management, site management, and maintenance will be required. The staffing program proposed below incorporates permanent staffing supplemented by seasonal labor. The current and estimated new annual labor costs for the HJWA are presented in Table V-a on the following page.

Program Management

Area Manager, AWB position, 0.20 PY

The direction of the HJWA will continue to be supervised by the AWB. This person will have the principal responsibility for implementing this LMP. Based upon discussions with CDFG staff, this position will decrease to 0.20 PY. The AWB will serve as the area manager of the HJWA, perform technical tasks, and give direction to staff. The AWB serves as CDFG's principal representative at meetings and coordinates with other agencies and interests.

Site Management

Wildlife Habitat Supervisor II, 0.5 PY

Increased day-to-day field operations will require a new Wildlife Habitat Supervisor II position. This individual will act as the field manager for the HJWA by performing basic communications, monitoring, and support functions. The individual will also assist and direct regular CDFG staff members, seasonal labor and volunteers performing biological monitoring and maintenance tasks as directed by this LMP.

Wildlife Biologist, Range A/B, 0.5 PY

This person will conduct most biological surveys and monitoring efforts on the HJWA under the general direction of the AWB.

Wildlife Habitat Assistant (WHA), 0.75 PY

This person is responsible for the day-to-day maintenance of the area.

Fish and Wildlife Scientific/Seasonal Aide, 0.75 PY

This position is responsible for the less technical tasks, including assisting with maintenance and operation of the area, and assisting with some aspects of the biological monitoring that may be necessary.

Table V-a. Estimated Annual Labor Cost, Hallelujah Junction Wildlife Area

Title	Annual Salary ¹	Current PY	Current Cost	New PY ²	New Cost	Net Increase/Decrease
Associate Wildlife Biologist	67,008	0.25	16,752	0.20	13,400	-3,352
Wildlife Biologist, A/B	50,196	-	-	0.50	25,100	25,100
Wildlife Habitat Supervisor II	62,868	-	-	0.50	31,450	31,450
Wildlife Habitat Assistant	45,696	-	-	0.75	34,272	34,272
Fish and Wildlife Technician	42,072	0.75	31,544	-	-	-31,544
Seasonal/Scientific Aide	20,000	-	-	0.75	15,000	15,000
Estimated Annual Labor Cost	-	-	54,312	-	119,222	70,926

¹ Average salary based on 2007 rates. Accessed on: [California State Personnel Board Web site](#)

² PY = Personnel Years (1.0 PY = 2080 hours)

2. Capital Equipment Needs

Additional equipment that will be needed to fulfill the goals and objectives of the HJWA LMP are summarized in Table V-b. Not all of these items will be immediately necessary, and equipment purchases can be prioritized and phased in as funding allows.

Table V-b. Additional Equipment Needs , Hallelujah Junction Wildlife Area

Description	Estimated Cost (New)
Backhoe/Tractor	\$80,000.00
Snowmobile	\$8,000.00
Estimated Total Equipment Cost	\$88,000.00

In addition to the specific equipment listed above, CDFG has identified a need for a new residence for on-site staff. This would be a modular home to replace or augment the existing residence. The estimated cost to permit and build the structure is \$250,000 (Jim Lidberg, CDFG [ret.], personal communication).

B. “Step Down” Activities

This LMP describes several activities that will require a substantial investment of time and budget in order to fully address them. While these activities are important to the overall management of HJWA, they are not deemed critical to preparation of the LMP. These activities have been identified as step-down actions for CDFG.

1. Easement Research and Parcel Map Follow-Up

There are scores of easements recorded on the various parcels that comprise the HJWA (Appendix A). Many of these are probably obsolete, but some have the potential to affect management of the Wildlife Area including road easements, well easements and mineral rights. Chain-of-title research and the potential consolidation, abandonment and or removal of these claims will require the attention of CDFG’s Lands Program. In addition, CDFG boundary files (used as the basis for maps throughout this LMP) should be corrected to correspond to Sierra and Lassen County parcel and ownership maps, as depicted in Figure II-b.

2. Water Rights Research and Follow-Up

As stated elsewhere in this LMP (II), water right issues in the Upper Long Valley are complicated. Additional research will be required to determine exactly what rights were retained by CDFG (Appendix C1 and C2) and how HJWA water supply may be at risk due to climate change, regional population growth and potential water supply acquisition strategies for nearby urban centers. Several steps have been identified as part of this research:

- Contact the State Water Resources Control Board (SWRCB) to order copies of the decree maps and examine the currently filed statements of diversion and use, as well as new applications, extensions, petitions for changes and transfers. It may also be beneficial to file change of ownership and/or Statements of Diversion and Use with the SWRCB’s Division of Water Rights.
- Research and compare additional existing hydrological reports done for the area (David Keith Todd Consulting Engineers, Inc. 1989; Water Research and Development, Inc. 1989).
- Determine what water rights were acquired, retained or severed in the 1989 and 1993 HJWA land acquisitions from the former Evans Ranch Inc. landowners. Follow up with the Evans Ranch Estate regarding a request to transfer existing water rights to CDFG. (The Evans Ranch water rights were originally scheduled to be transferred to Sierra County but had not occurred as of March 2009 [Thomas Archer, attorney at law, personal communication]).
- Conduct a hydrological assessment of the Wildlife Area. Document current and future stream flow needs in Long Valley Creek and its major tributaries, as well as assess the groundwater supply, quality and recharge capacity. The hydrological assessment should include GPS mapping of the ground water production and test wells and the active and historical surface water diversion points in and adjacent to the Wildlife Area. The hydrological assessment can be used to clearly define CDFG’s water needs, quantity and timing as well as declare its intended use (i.e., restoration, fisheries enhancement, wildlife habitat enhancement, and livestock) and to declare minimum in-stream flow requirements.

- Prepare a drought contingency plan for management of the Wildlife Area. Evaluate how current and planned management activities may need to be adjusted and or adapted to contend with ecological conditions that result from climate change.
- Climate change effects and regional population growth suggest it would be prudent for HJWA managers to take all necessary steps to permanently secure and document present and future water supplies for the area. Such measures may need to extend beyond declaring minimum in-stream flows to exploring potential conservation easements or forbearance agreements with upstream water rights holders.

3. Cultural Resource Treatment Plan

HJWA is located in an area rich in historical and pre-historical resources. A comprehensive survey of the Wildlife Area is recommended to document resources. A "Cultural Resource Treatment Plan" should be prepared by a qualified archaeologist familiar with the resources and issues of this region of California. Such a plan will assist managers and staff in determining appropriate actions and mitigation for cultural resources on site as well as appropriate management activities. Part of the plan should include mapping known resources as part of the GIS system for the Wildlife Area.

4. Fire Management Plan

As described elsewhere in this LMP (IVE, 2), the HJWA is located in a region rated as moderate to high fire risk (CAL FIRE 2008), and has already been profoundly affected by fire. A Fire Management Plan should be prepared to ensure appropriate coordination with the local and regional fire management agencies, and to implement the policies outlined in the "Interim Joint Policy on Pre, During, and Post Fire Activities and Wildlife Habitat" (California State Board of Forestry and the California Fish and Game Commission 1994).

5. Fire Restoration and Monitoring Plan

The Balls Canyon Fire eliminated thousands of acres of sagebrush and bitterbrush habitat in the HJWA. Given the topography, climate regime and plant communities of HJWA, restoration of these habitats will require the long-term commitment of staff time and financial resources. Weed management and follow-up monitoring will be a critical component of the Restoration Plan. Implementation will likely require cooperative agreements with several other agencies and institution.

6. Range Management Plan

Preparation of a full-range management plan for the HJWA will require the services of a California-licensed Certified Rangeland Manager (CRM) per CCR Title 14 §1651 (Huff 2008). The baseline ecological data collected to prepare the LMP provides the critical background information for informing planning decisions regarding livestock management at the Wildlife Area. Next steps include integrating this volume of bio-geographical information with the preliminary range assessments done in 2007, and collecting and mapping additional information regarding water sources, pasture fencing and infrastructure. Many of the biological monitoring strategies described in Section 4 are applicable to range monitoring and may be integrated into the range management plan. A stand-alone range management plan will be an important resource for area managers and should be annually revised and updated according to management needs and monitoring data (Appendix H).

C. Funding Sources

1. Operations and Maintenance Budget

Current funding sources for the operation and maintenance of the HJWA are through CDFG's operating budget for the North Central Region. The annual grazing lease provides a minor budget augmentation that supports maintenance and habitat restoration activities. Sierra County recently contributed funds to assist with the Balls Canyon Fire Restoration effort. Implementation of the LMP will require additional funding and support.

2. Restoration, Enhancement and Capital Improvement Resources

Funding sources for habitat restoration, enhancement and capital improvements include, but are not limited to:

- California Endangered Species Tax Check-Off Fund
- CDFG Minor/Major Capital Outlay proposals
- Ducks Unlimited, Wetland Restoration Program
- Grant programs administered by the National Fish and Wildlife Foundation
- Grant programs administered by the U.S. Environmental Protection Agency
- Grant programs administered by the U.S. National Oceanic and Atmospheric Administration
- Grant programs administered by the Wildlife Conservation Board
- Neotropical Migratory Bird Conservation Act Grants Program
- North American Wetlands Conservation Act (NAWCA) funding
- Other programs authorized under future bond acts
- State Duck Stamp Program
- U. S. Department of the Interior's Healthy Lands Initiative
- U.S. Fish and Wildlife Service, Endangered Species Act, Section 6 provisions for cooperation with the states
- U.S. Fish and Wildlife Service, State Wildlife Grant Program, Federal Aid in Wildlife Restoration Program
- Upland Game Stamp Program

D. Operations and Maintenance Tasks

Operations and maintenance tasks are described earlier under the goals for each management element (IV) and summarized in Table V-c, below. Tasks are presented according to topical progressions and should not be construed as a prioritized list. Tasks associated with biological goals are largely restated and incorporated under biological monitoring tasks (IVC) and facility maintenance tasks (IVE). CDFG will prioritize implementation of the tasks based upon staffing availability, outside resources and financial constraints.

Table V-c. Summary of Staffing Required to Implement HJWA LMP

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
IVB: BIOLOGICAL ELEMENTS								
1. Loyaltton-Truckee Mule Deer Element								
GOAL 1.1: Protect, restore and enhance habitat, and regulate hunting to support an optimal size of the Loyaltton-Truckee mule deer herd.	TASK 1.1.1: Follow management recommendations provided in the Loyaltton-Truckee Deer Herd Management Plan that apply to the HJWA.	I	I	I	-	-	-	P
	TASK 1.1.2: Monitor seasonal deer abundance, habitat use, and migration routes to inform deer herd management decisions (IVC, 1.2).	-	60	20	30	-	-	A
	TASK 1.1.3: Protect and enhance bitterbrush and mountain mahogany habitat, to maintain and improve deer foraging habitat.	-	I	I	-	-	40	A
	TASK 1.1.4: Protect, enhance, and restore riparian habitat to maintain and improve deer fawning habitat.	-	40	-	20	-	10	A
	TASK 1.1.5: Implement a grazing monitoring plan for the HJWA with special emphasis on assessing grazing effects on mule deer habitat (App. H).	-	24		40			A
	TASK 1.1.6: Manage invasive plant species such as cheatgrass (App. F) to maintain and improve deer foraging and cover habitat.	-	-	I	40	-	20	A
	TASK 1.1.7: Manage fuel loads to reduce potential for catastrophic fire events (IVE, 2), maintain and improve all deer habitats, and to prevent deer mortality caused by fire.	I	I	I	I	I	I	A
	TASK 1.1.8: Periodically evaluate the hunting program and regulations and recommend changes as warranted to maintain an optimal deer herd size (IVD, 2).	-	24	-	-	-	-	P

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D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 1.1.9: Implement design features, standard management requirements, and best management practices (BMP) described in the HJWA LMP to manage potential grazing impacts to special-status species, mule deer, riparian and wetland vegetation types, aquatic ecosystems, and to mountain mahogany, bitterbrush, and other upland vegetation types.	-	I	I	-	-	-	P
2. Sagebrush Scrub Habitat Element								
GOAL 2.1: Maintain, enhance and restore habitat for special-status species that occur in sagebrush habitats within or adjacent to the Wildlife Area.	TASK 2.1.1: Conduct, support or encourage surveys for special-status species that have the potential to occur in sagebrush habitats within and adjacent to the Wildlife Area.	-	I	20	40	-	40	A
	TASK 2.1.2: Periodically monitor populations of special-status species to assess overall habitat integrity, to detect changes in species distribution and abundance, and to detect adverse effects of human use, erosion or non-native species.	-	I	20	40	-	-	P
	TASK 2.1.3: Conduct management activities and manage public uses, especially grazing and hunting activities, to minimize effects on areas known to be occupied by special-status species (e.g., western sage-grouse, burrowing owl, etc.).	-	10	I	-	20	-	P
	TASK 2.1.4: Ensure that all actions undertaken in the wildlife areas comply with the federal Endangered Species Act (ESA); California Endangered Species Act (CESA) including any applicable Habitat Conservation Plans (HCP) or Natural Community Conservation Plans (NCCP); Sections 401 and 404 of the Clean Water Act (CWA); Section 1602 of Fish and Game Code; and other applicable plans or regulations aimed at the protection of special-status species or their habitats.	I	20	20	-	-	-	P
GOAL 2.2: Prevent further loss of biological integrity within sagebrush scrub habitats in the Wildlife Area.	TASK 2.2.1: Manage invasive plant species such as cheatgrass to maintain and improve wildlife foraging and cover habitat (App. F).	-	10	10	-	-	-	P
	TASK 2.2.2: Prepare and implement a fire management plan that includes weed management, livestock grazing, and restoration planning in collaboration with University of Nevada, Reno (UNR), U.S. Forest Service (USFS), California Department of Forestry (CDF) and the Nevada Department of Wildlife (NDOW) (IVE, Appendices E and G).	16	-	40	-	-	-	A

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
3. Juniper Woodland Habitat Element								
GOAL 3.1: Maintain, enhance and restore habitat for special-status species that occur in juniper habitats within or adjacent to the Wildlife Area.	TASK 3.1.1: Conduct, support or encourage surveys for special-status species that have the potential to occur in juniper woodland habitats within and adjacent to the Wildlife Area (IVC).	-	40	-	-	-	-	P
	TASK 3.1.2: Map and protect Swainson’s hawk nest trees from disturbance during the nesting season (April-August).	8	24	-	-	-	-	P
	TASK 3.1.3: Conduct baseline wildlife species surveys in juniper woodland habitat (IVC, 1).	-	24	-	-	-	-	P
	TASK 3.1.4: Periodically monitor understory plant diversity in the juniper woodland and take management actions as appropriate to maintain the greatest diversity.	-	16	-	-	-	-	P
	TASK 3.1.5: Monitor the extent and distribution of juniper woodland habitat on the Wildlife Area. Take actions as needed to optimize habitat for the Loyalton-Truckee deer herd and other wildlife species, including juniper removal.	-	8	-	-	-	-	P
4. Bitterbrush and Mountain Mahogany Scrub Habitat Element								
GOAL 4.1: Maintain, enhance and restore habitat for special-status species that occur in mountain mahogany habitats within or adjacent to the Wildlife Area.	TASK 4.1.1: Conduct surveys for special-status species that have the potential to occur in mountain mahogany habitats within and adjacent to the Wildlife Area (IVC, 1).	-	16	-	-	-	-	P
GOAL 4.2: Protect and enhance bitterbrush and mountain mahogany habitat.	TASK 4.2.1: Research existing literature addressing bitterbrush and mountain mahogany regeneration in order to understand and manage for the current lack of regeneration.	-	10	10	-	-	-	P
	TASK 4.2.2: Identify management practices that may enhance bitterbrush and mountain mahogany vegetation types in areas where they already exist.	-	I	I	-	-	-	P
	TASK 4.2.3: Conduct and support studies of bitterbrush and mountain mahogany regeneration and potential restoration or enhancement methods (IVC, 3).	-	I	I	-	-	-	P
	TASK 4.2.4: Identify opportunities for restoration or enhancement in areas that previously supported bitterbrush and mountain mahogany vegetation types but were modified due to fires or other disturbance; and assess physical, biological, and economic opportunities and constraints. Record all locations of these vegetation types in the CDFG GIS database.	-	40	I	-	-	-	P

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 4.2.5: Develop plans and pursue funding for identified bitterbrush and mountain mahogany restoration or enhancement projects; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; and include the help of volunteers whenever practical.	-	10	10	-	-	-	P
	TASK 4.2.6: Implement restoration and enhancement projects (e.g., seeding, planting, soil amendments, watershed restoration) for the bitterbrush vegetation type and for the mountain mahogany vegetation type if effective restoration or enhancement methods are developed.	-	-	-	10	-	40	P
	TASK 4.2.7: Use local resources for seed collection and restoration. Establish an annual program to collect bitterbrush seed for deer habitat enhancement.	-	-	-	40	-	-	A
5. Jeffery Pine Habitat Element								
GOAL 5.1: Maintain, enhance and restore habitat for special-status species that occur in Jeffery pine habitats within or adjacent to the Wildlife Area	TASK 5.1.1: Conduct surveys for special-status species that have the potential to occur in Jeffery pine habitats within and adjacent to the Wildlife Area (IVC, 1).	-	8	-	-	-	-	P
	TASK 5.1.2: Monitor regeneration of upland forest that was burned in the Balls Canyon fire (IVE, 3). Enhance this forest with additional seeding or planting as needed.	-	-	I	10	-	-	P
	TASK 5.1.3: Prepare an approved timber harvest plan before any timber harvest.	-	I	I	I	-	-	P
	TASK 5.1.4: Ensure that all actions undertaken in the Wildlife Area comply with regulations and guidelines protecting unique or sensitive communities.	-	I	I	-	-	-	P
6. Riparian/Spring Habitat Element								
GOAL 6.1: Maintain, enhance and restore habitat for special-status species that occur in riparian habitats within or adjacent to the Wildlife Area.	TASK 6.1.1: Conduct surveys for special-status species that have the potential to occur in riparian habitats within and adjacent to the Wildlife Area (IVC, 1).	-	16	-	-	-	-	P
	TASK 6.1.2: Identify and protect essential habitat for the following special-status species known, or are highly likely, to occur in riparian/spring habitats within and adjacent to the Wildlife Area (IVC, 1): Bank swallow, willow flycatcher, yellow warbler, and pallid bat	8	I	-	-	-	-	P
	TASK 6.1.3: Periodically monitor populations of special-status species to assess overall habitat integrity, detect changes in distribution and abundance, and detect positive and adverse effects of management activities, human use, and/or non-native species (IVC, 1).	-	16	-	-	-	-	P
	TASK 6.1.4: Reassess and adapt management practices as needed to protect essential habitat	8	I	8	16	-	-	P

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	for special-status species.							
GOAL 6.2: Protect, enhance, and restore riparian and wetland vegetation types.	TASK 6.2.1: Review historic information on natural processes and conditions within the Long Valley and Balls Creek watershed and identify areas where natural functions have been lost or impaired (V, 3).	I	I	I	I	-	I	P
	TASK 6.2.2: Restore, protect, and enhance the hydrologic stability, floodplain functions, and ecological functions of Long Valley Creek and Balls Canyon Creek to enhance riparian habitat for special-status species dependent on these habitats (e.g. willow flycatcher, yellow warbler, and bat species).	I	I	I	I	-	I	P
	TASK 6.2.3: Inventory and map all springs on property. Incorporate data into GIS database for HJWA.	-	-	-	16	-	40	A
	TASK 6.2.4: Monitor existing fencing that excludes cattle from riparian areas. Maintain or add fencing as needed to protect important riparian areas from overgrazing, and to protect important ecosystems from cattle disturbance or pollution (App. H).	-	-	-	40	-	80	A
	TASK 6.2.5: Ensure that all projects proposed within the watersheds of HJWA provide protection measures for water quality (particularly erosion and sedimentation control measures), water quantity, stream buffers, and aquatic species.	-	I	I	-	-	-	P
	TASK 6.2.6: Before implementing any construction projects including soil disturbance greater than 1 acre (or less, depending on current State Water Resources Control Board (SWRCB) regulations), prepare a Storm Water Prevention Pollution Plan (SWPPP) that identifies BMPs that will be used to eliminate or minimize the potential for construction-related pollution to enter stream flows directly, or through stormwater runoff.	-	-	I	I	-	-	P
	TASK 6.2.7: Ensure that all actions undertaken in the wildlife areas comply with the ESA and CESA; Section 401 and 404 of the CWA; Section 1602 of Fish and Game Code; and other applicable regulations aimed at the protection of aquatic ecosystems.	-	I	20	I	-	-	P
	TASK 6.2.8: Establish cooperative agreements with neighbors, local and regional conservation groups, and resource agencies to enhance riparian and wetland habitats (IVC, 2).	16	-	-	-	-	-	P
	TASK 6.2.9: Evaluate opportunities, constraints, and potential restoration benefits to identify feasible watershed restoration projects that would support the goals of this LMP, including a review of existing documents and/or conducting additional assessments.	-	I	I	-	-	-	P

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D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
GOAL 6.3: Protect and manage riparian habitat for species abundance and richness.	TASK 6.3.1: Complete a wildlife species inventory.	8	80	-	-	-	40	P
	TASK 6.3.2: Conduct a breeding bird survey of riparian habitats to establish a baseline for species diversity (IVC, 1).	-	80	-	-	-	40	A
	TASK 6.3.3: Monitor the distribution and relative abundance of breeding riparian birds on an annual basis, as an indicator of diversity within riparian habitats on and adjacent to the Wildlife Area (IVC, 2).	-	I	-	-	-	80	A
7. Meadow Habitat Element								
GOAL 7.1: Identify and protect essential habitat for special-status species that occur in meadows within or adjacent to the Wildlife Area.	TASK 7.1.1: Conduct surveys for special-status species that have the potential to occur in meadow habitats within and adjacent to the Wildlife Area (IVC, 1).	8	I	-	-	-	40	P
	TASK 7.1.2: Map and protect habitat for special-status species that occur in meadow habitats.	-	8	-	-	-	-	P
GOAL 7.2: Restore and enhance meadow habitats that have been modified by fire or other disturbance.	TASK 7.2.1: Identify opportunities for restoration or enhancement in areas that previously supported grassland/meadow vegetation but were modified due to fires or other disturbance; and assess physical, biological, and economic opportunities and constraints. Record all locations of these vegetation types in the CDFG GIS database.	16	40	-	-	8	-	P
	TASK 7.2.2: Implement a grazing management plan for the HJWA with special emphasis on assessing grazing effects on meadows and mule deer habitat (App. H).	8	-	40	40	-	-	A
	TASK 7.2.3: Manage invasive plant species such as cheatgrass and pepperweed (see App. F), to maintain and improve deer foraging and cover habitat.	-	16	40	40	-	-	P
	TASK 7.2.4: Consult with USFWS and CDFG species experts before undertaking any management actions that could potentially affect special-status species or their habitats.	8	8	-	-	-	-	P
8. Recent Burns/Early Successional Habitats Element								
GOAL 8.1: Control and minimize the spread of non-native invasive plants.	TASK 8.1.1: Inventory and map distributions of invasive non-native plant populations and integrate data into the GIS database (IVC, 1).	-	8	-	80	-	40	A
	TASK 8.1.2: Implement the HJWA Weed Management Plan (App. F).	-	-	24	80	-	80	A
	TASK 8.1.3: Develop and implement enhancement strategies that use natural processes to improve habitat for special-status species.	-	I	I	40	-	100	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 8.1.4: Manage livestock during appropriate seasons and at an appropriate intensity to use grazing as a management tool for invasive plant species management (Appendices E and G).	-	I	I	-	-	-	P
GOAL 8.2: Promote restoration of fire-damaged wildlife habitat at the HJWA.	TASK 8.2.1: Develop and implement a habitat restoration plan to provide wildlife cover and forage (IVE, 2).	-	I	40	-	-	-	P
	TASK 8.2.2: Establish cooperative agreements with local and regional conservation groups, universities, and resource agencies to enhance wildlife habitat (IVG, 2).	16	-	-	-	-	-	P
	TASK 8.2.3: Identify and map active headcuts and erosion-prone areas and install erosion-control measures before the rainy season. Use only certified weed-free straw for erosion control.	-	-	24	-	-	40	P
	TASK 8.2.4: Conduct stormwater checks on erosion-control measures before and after rain events to monitor effectiveness.	-	-	-	24	-	-	P
	TASK 8.2.5: Pursue funding and develop plans for already identified restoration projects that include goals, techniques, costs, monitoring, an adaptive management process, and a schedule.	I	I	I	-	-	-	P
	TASK 8.2.6: Support and encourage the monitoring of baseline and post-restoration ecological conditions.	-	I	I	20	-	-	P
	TASK 8.2.7: Cooperate with the development and implementation of local and regional restoration plans from other agencies/programs that are consistent with the goals of this LMP (IVG, 2).	-	I	I	-	-	-	P
IVC: BIOLOGICAL MONITORING ELEMENTS								
1. Baseline Data Collection Element								
GOAL 1.1: Inventory resources within each habitat element and identify relationships between biological elements.	TASK 1.1.1: Set up permanent plots and conduct annual vegetation monitoring using CDFG accepted protocols.	-	40	-	-	-	40	A
	TASK 1.1.2: Set up permanent photo monitoring stations for annual documentation of habitat conditions.	-	I	-	-	-	-	A
	TASK 1.1.3: Conduct focused surveys for special-status species (flora and fauna) using accepted federal and states protocols, and submit occurrence data to the CNDDb.	-	40	-	-	-	-	P
	TASK 1.1.4: Conduct bat surveys (using Anabat software or similar tool) to determine species utilization of the HJWA.	-	24	-	-	-	-	P
	TASK 1.1.5: Conduct breeding bird surveys.	-	80	-	-	-	-	A

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 1.1.6: Inventory and map distributions of invasive non-native plant populations and integrate data into the GIS database for HJWA.	-	40	-	40	-	-	P
GOAL 1.2: Collect additional baseline data related to the health and status of the Loyalton-Truckee mule deer herd.	TASK 1.2.1: Continue to collaborate with USFS, BLM and NDOW for monitoring mule deer habitat and annual surveys.	24	24	-	-	-	-	A
	TASK 1.2.2: Conduct deer composition counts in spring and fall. Use monitoring data to set and adjust harvest rates, timing, duration of hunts, and bag limits to achieve population objectives.	-	I	-	-	-	24	A
	TASK 1.2.3: Monitor winter survival of fawns to maintain an index of recruitment into the population.	-	I	-	-	-	-	A
	TASK 1.2.4: Monitor livestock grazing to minimize or eliminate detrimental impacts to mule deer habitats (App. H).	-	24	-	40	-	-	A
GOAL 1.3: Collect baseline data specific to the extent of the bitterbrush and mountain mahogany habitat.	TASK 1.3.1: Conduct focused surveys of bitterbrush to confirm and correct aerial mapping of habitat extent, using GPS. Incorporate data into GIS database as a separate layer for restoration planning.	-	16	-	-	-	-	P
	TASK 1.3.2: Conduct focused surveys for mountain mahogany and map using GPS. Incorporate data into GIS database as separate layer for restoration planning.	-	24	-	-	-	-	P
GOAL 1.4: Collect baseline data specific to the integrity of Jeffery pine habitats.	TASK 1.4.1: Survey and map unique habitat features such as downed wood, snags and rock outcrops. Incorporate these landscape features into the GIS database.	-	16	-	-	-	-	P
GOAL 1.5: Collect baseline data specific to the environmental health of wet habitats.	TASK 1.5.1: Using GPS map the locations of all springs and seeps at the HJWA and enter data into GIS database (see also IVB, Task 6.2.3).	-	-	-	-	-	40	P
	TASK 1.5.2: Inventory aquatic species, including fish and amphibians, to establish a baseline for species diversity monitoring. Conduct appropriately timed focused surveys in early spring and summer to document chorusing frogs, egg-masses, tadpoles, and juveniles. Document and map occurrences of special-status species and submit data to the CNDDb.	-	I	-	-	-	-	P
	TASK 1.5.3: Conduct baseline benthic macro invertebrate (BMI) sampling along creeks. Use CDFG's protocol for BMI surveys in low gradient streams (CDFG 2003).	-	16	-	-	-	-	A
	TASK 1.5.4: Conduct monthly surveys of wetland dependent birds for at least one full year to establish baseline for species diversity.	-	24	-	-	-	-	A

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
2. Long-term Monitoring Element								
GOAL 2.1: Establish long-term monitoring protocols for each biological element and resolve critical management uncertainties.	TASK 2.1.1: Establish cooperative agreements with local and regional conservation groups and resource agencies to enhance special-status species habitats and monitor regional special-status species populations.	16	-	-	-	-	-	A
	TASK 2.1.2: Monitor the distribution and relative abundance of breeding birds on an annual basis, using either area searches or point counts.	-	I	-	-	-	-	A
	TASK 2.1.3: Implement an annual monitoring and reporting program for other focal species, including mule deer, reptiles and amphibians, mammals and aquatic invertebrates (V, 6).	-	I	-	-	-	-	A
	TASK 2.1.4: Implement a grazing management and monitoring plan for the HJWA (App. H).	-	-	24	80	-	-	A
3. Regional Habitat Conservation Planning Element								
GOAL 3.1: Develop working relationships with regional associations with expertise in wildlife and native plants to assist with species counts and biological monitoring.								P
GOAL 3.2: Recruit researchers and educators at regional institutions to assist with the design and testing of long-term monitoring protocols, especially in the areas of fire restoration, grazing as a vegetation management tool, and climate change.								P
GOAL 3.3: Coordinate with regional conservation planning efforts for assistance with framing data collection and monitoring parameters from a larger landscape perspective.	TASK 3.3.1: Keep current on key habitat and species conservation planning efforts that address the biological management goals set forth in this LMP.	8	8	-	-	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
IVD: PUBLIC USE ELEMENTS								
1. Public Access Information and Education Element								
GOAL 1.1: Facilitate safe and authorized access to the Wildlife Area.	TASK 1.1.1: Post information at the entrance to the Wildlife Area about boundaries, access, use designations and restrictions, potential risks, and emergency contacts.	-	-	-	8	-	-	P
	TASK 1.1.2: Work with local, regional and state agencies to integrate the HJWA into emergency communications and response plans.	-	8	-	-	-	-	A
	TASK 1.1.3: Identify and clearly mark the boundaries of the Wildlife Area for the public through maps, property boundary signs, and signs locating the entry point.	-	-	-	8	-	40	P
	TASK 1.1.4: Consider developing trail routes in areas where public use is high or where needed to avoid sensitive areas.	8	-	8	-	-	-	P
	TASK 1.1.5: Continue to update information on CDFG's HJWA Web page and other published materials on the HJWA.	-	8	-	-	-	-	A
	TASK 1.1.6: Monitor the magnitude and type of illegal public use, such as off-road vehicle use or out of season hunting. Increase CDFG presence in wildlife areas, and increase the frequency of the assignment of penalties. Request assistance from the county sheriff as necessary to enforce laws.	-	-	-	-	100	-	A
GOAL 1.2: Educate the public about compatible uses of the Wildlife Area.	TASK 1.2.1: Add information to signage about the purposes of the Wildlife Area --protection of the long-term viability of the Loyalton-Truckee deer herd and compatible public uses--at unauthorized access points as well as at the entrance to the Wildlife Area.	-	-	I	-	-	-	P
	TASK 1.2.2: Add information to the HJWA Web page and to other published materials on the HJWA about the primary purpose of the Wildlife Area and compatible public uses.	-	I	I	-	-	-	P
	TASK 1.2.3: Provide an interpretive information bulletin board or kiosk at the entrance point to the HJWA where visitors can observe and learn about the natural history, cultural history, and restoration of compromised habitats.	-	I	I	I	-	-	P
	TASK 1.2.4: Hold periodic public information meetings to increase the awareness of visitors and potential visitors to the Great Basin region about HJWA, existing public use opportunities, regulations, and any particular management issues requiring focused attention.	I	I	I	-	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
GOAL 1.3: Enlist the support of user groups to assist as stewards of the area's resources.	TASK 1.3.1: Enlist the support of user groups in conducting annual inspections for signs of human disturbance, hosting "clean up days," and assisting with installing barriers to discourage access to closed zones and sensitive habitats.	-	I	I	-	-	-	P
	TASK 1.3.2: Enlist the support of user groups in restoring and monitoring ecosystems damaged by unauthorized uses, fires, flooding, and other conditions.	I	I	I	-	-	-	P
	TASK 1.3.3: Consider developing a docent program that draws on the expertise of user groups to educate the public about the ecology and natural history of the area, including the importance of the area to the Loyalton-Truckee deer herd.	-	8	-	-	-	-	P
GOAL 1.4: Work with adjacent landowners and holders of easements to develop strategies for reducing unauthorized access.	TASK 1.4.1: Assess where the Wildlife Area is experiencing the heaviest unauthorized access and illegal resource degradation.	-	-	I	40	-	-	P
	TASK 1.4.2: Coordinate with adjacent landowners to develop procedures for responding to unauthorized use and trespass. Work toward mutually agreeable strategies for reducing unauthorized access and resource degradation.	-	-	-	16	-	-	P
GOAL 1.5: Support use of the HJWA by Native Americans for cultural purposes and traditional activities such as gathering native plant materials.	TASK 1.5.1: Review access requests by Native Americans to the Wildlife Area by evaluating the purpose and need for access or collections according to applicable laws and treaties related to tribal use of state properties.	-	I	I	-	-	-	P
	TASK 1.5.2: Develop access plans and issue permits for Native Americans for cultural purposes and activities that are compatible with the HJWA goals. Permits should identify specific species, limitations, locations and seasons, and include standard liability clauses.	-	I	I	-	-	-	P
GOAL 1.6: Assess effectiveness of management practices in improving public understanding of the purposes of HJWA and decreasing illegal use.	TASK 1.6.1: Add to signage the name, phone number, email, and Web site address of a person the public may contact regarding questions, comments and suggestions about compatible uses at the HJWA, and develop a procedure for tracking and following up on these contacts.	-	8	-	-	-	-	P
	TASK 1.6.2: Develop pertinent recreation indicators for the HJWA and use them to evaluate and report use levels and to conduct periodic visitor interest and satisfaction surveys.	8	8	8	8	-	-	P
	TASK 1.6.3: Identify a regional resource for assisting area managers in establishing rapid assessments tools and procedures for gauging public use.	I	-	-	-	-	-	A

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 1.6.4: Periodically review actual public use of the Wildlife Area and evaluate rules, regulations, guidelines and materials to ensure compatibility of public uses and consistency with HJWA goals.	-	I	I	-	-	-	P
2. Hunting Element								
GOAL 2.1: Provide a quality wildlife-dependent recreational experience using a renewable natural resource.	TASK 2.1.1: Inform the public of hunting times, locations and any special restrictions at the entrance to the Wildlife Area, on signage at strategic access points, and the CDFG Web site.	-	-	I	-	-	-	A
	TASK 2.1.2: Develop area maps identifying open and closed hunt areas.	-	-	-	16	-	-	A
	TASK 2.1.3: Coordinate and conduct a volunteer "clean-up day" in late summer to ready the Wildlife Area for the upcoming hunting season.	-	-	-	16	-	-	A
	TASK 2.1.4: Continue to maintain and develop relationships among CDFG staff, hunters and volunteer organizations to provide quality hunting experiences and to assist in maintaining the long-term viability of the herd.	-	I	-	-	-	-	P
GOAL 2.2: Promote hunter education and ethics through information and enforcement of hunting regulations and compliance with compatibility determinations.	TASK 2.2.1: Work with local hunting organizations to incorporate information about the HJWA into hunter safety courses and provide links to online information.	-	4	-	-	-	-	A
	TASK 2.2.2: Post information at the entry gate to the Wildlife Area on proper handling of deer and elk to prevent the spread of Chronic Wasting Disease.							A
	TASK 2.2.3: Post information on regional family events where adults participate together with children and youth in hunting experiences.							P
	TASK 2.2.4: Post information on available special hunts in the area for youth, women and people with disabilities.							P
3. Wildlife Viewing and Nature Observation Element								
GOAL 3.1: Improve safety and opportunities for wildlife viewing and nature observation at the HJWA.	TASK 3.1.1: Assess methods for improving low-impact access, such as the development of trails that avoid sensitive areas and installation of observation blinds at key points.	-	8	-	-	-	16	A
	TASK 3.1.2: Post interpretive information about the importance of the Loyalton-Truckee deer herd, its seasonal migrations and habitat needs, its use of the Wildlife Area as a winter range, and its status as a focal species indicating the environmental health of the area.	-	4	-	-	-	-	P
	TASK 3.1.3: Post information educating non-hunters about appropriate behavior and safety practices during hunting season.	-	-	-	-	-	2	P
	TASK 3.1.4: Post information at the entrance to	-	4	-	-	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	the Wildlife Area and on the CDFG Web site about permit opportunities for organized group access.							
GOAL 3.2: Establish a means of capturing and sharing observations made by visitors.	TASK 3.2.1: Maintain a current species list for the HJWA and provide this information to the public at Fish and Game offices.	-	8	-	-	-	-	P
	TASK 3.2.2: Explore options for integrating visitor observations (including photographs) into baseline data collection efforts, monitoring and research.	-	4	-	-	-	-	P
GOAL 3.3: Support the use of HJWA for developing environmental literacy.	TASK 3.3.1: Provide staff assistance, interpretive materials, and permits for environmental education activities.	-	I	10	20	-	-	P
	TASK 3.3.2: Encourage all environmental education and natural resource interpretation (informal education) users to incorporate state guidelines for natural resource education in their field activities, curricula, and interpretive programs, both on- and off-site. For example, incorporate GLOBE program standards for the scientifically valid atmospheric, hydrologic soils, and land cover/phenology measurements into public research and education standards.	-	I	I	-	-	-	P
4. Scientific Research Element								
GOAL 4.1: Develop a process for coordinating, capturing and sharing research related to the HJWA.	TASK 4.1.1: Post notices regarding procedures and contact information for obtaining research permits on the HJWA on the CDFG Web site.	-	I	-	-	-	-	p
	TASK 4.1.2: Establish protocol guidelines for use by researchers and field technicians, including integration of research into CDFG-preferred databases.	I	I	-	-	-	-	P
	TASK 4.1.3: Identify and participate in regional advisory groups related to Great Basin ecosystems.	8	8	-	-	-	-	P
GOAL 4.2: Provide opportunities for scientific research that will support adaptive management of the HJWA and provide useful biological information to land managers.	TASK 4.2.1: Establish working relationships with UNR, Eagle Lake Field Station, and other regional research institutions for engaging in on-site data collection, information sharing and longitudinal studies.	-	I	-	-	-	-	P
	TASK 4.2.2: Support the use of HJWA for research efforts related to protecting and enhancing riparian corridors and bitterbrush stands, and restoring areas impacted by wildfires and previous land management practices.	-	I	-	-	-	-	P
	TASK 4.2.3: Identify and assess experimental design opportunities (including remote sensing and telemetry) that could be incorporated into habitat and species management, restoration, and/or reintroduction projects at the HJWA.	-	8	-	-	-	-	P
	TASK 4.2.4: Explore options for integrating the observations of organized groups into baseline data collection efforts, monitoring and research.	-	I	-	-	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 4.2.5: Consider developing or participating in a tiered research and career development program involving universities, community colleges and public school programs.							P
IVE: FACILITY MAINTENANCE ELEMENTS								
1. Health and Safety Element								
GOAL 1.1: Provide a safe environment for wildlife and for public use.	TASK 1.1.1: Establish an annual monitoring and reporting program of wildlife area facilities (e.g., condition of signs, structures, etc.).	-	-	I	I	-	-	A
	TASK 1.1.2: Fix or replace facilities as needed, and adapt facility management approach, based on the results of the annual monitoring program.	-	-	20	20	-	100	A
	TASK 1.1.3: Ensure that facilities maintenance actions comply with the ESA, CESA and other regulations aimed at the protection of special-status species and/or sensitive habitats.	-	I	-	-	-	-	P
	TASK 1.1.4: Document facility needs in CDFG's maintenance and capital outlay database (IVG).	I	-	20	-	-	-	A
GOAL 1.2: Discourage destructive and illegal public use of wildlife areas through enforcement of regulations.	TASK 1.2.1: Monitor the magnitude and type of illegal public use (e.g., off-road vehicle use, out of season hunting). Increase CDFG presence in wildlife areas, and increase frequency of assignment of penalties. Request assistance from the county sheriff as necessary to enforce laws (IVD).	-	I	-	-	-	-	P
2. Fire Management Element								
GOAL 2.1: Manage the Wildlife Area to optimize wildlife habitat conditions while protecting people and property.	TASK 2.1.1: Develop and implement a Wildfire Management Plan for the HJWA. The management plan should coordinate with local and regional fire management agencies and implement the policies outlined in the "Interim Joint Policy on Pre, During and Post Fire Activities and Wildlife Habitat" (California State Board of Forestry and California Fish and Game Commission 1994). Coordinate with battalion chief of TNF Carson Ranger District to obtain and review copies of local incident command procedures and agreements applicable to fire suppression at the HJWA. Determine how CDFG could aid appropriate fire suppression responses (e.g., installing locator signs within the wildlife areas for fire-fighting personnel).	-	-	I	I	-	-	A
	TASK 2.1.2: Train the Wildlife Area Manager to serve the role of Resource Specialist or Agency Representative through the Incident Command System (ICS). As part of the ICS, make a department representative available (Wildlife Area Manager or another local plant, wildlife, and fisheries specialist) to provide advice during fires that threaten habitat at HJWA.	16	16	-	-	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 2.1.3: Coordinate and meet annually with local fire agencies to develop and update wildfire response procedures including vegetation management, recent fire events, and contact information.	8	-	8	-	-	-	A
	TASK 2.1.4: Identify water sources that could be used strictly for emergency purposes that would save lives and property. Install an auxiliary water tank and pump if necessary.	-	-	-	16	-	-	P
	TASK 2.1.5: Install fire extinguishers and smoke alarms in all structures at the HJWA and train staff on proper use of extinguishers.	-	-	I	I	-	-	A
	TASK 2.1.6: Design and implement vegetation management strategies, including: Establishing firebreaks along existing roads, parking lots, and existing structures. Using livestock grazing as appropriate to manage fuel load. Maintaining at least 100 feet of defensible space between structures and flammable vegetation. Storing woodpiles and other flammable materials away from structures.	-	-	I	I	-	I	A
	TASK 2.1.7: Identify and implement project-specific BMPs to minimize fire hazards during any management activities that require the use of mechanical equipment.	-	-	I	-	-	-	P
GOAL 2.2: Coordinate with other resource agencies to promote healthy ecosystems at HJWA and vicinity.	TASK 2.2.1: Review existing TNF and BLM fire suppression procedures to identify fire suppression tactics that could have long-term effects on ecosystems. Recommend avoidance or modification of those tactics whenever feasible in order to avoid or minimize long-term effects on the ecosystems of the HJWA.	-	I	-	-	-	-	P
	TASK 2.2.2: Review and comment on any proposed fuels or fire management projects for the HJWA or the surrounding TNF or BLM lands to ensure consistency with CDFG goals, such as protection of natural resources.	I	I	10	-	-	-	P
3. Vegetation Management and Grazing Element								
GOAL 3.1: Restore, to the greatest extent possible, fire-damaged habitats.	TASK 3.1.1: Develop a Habitat Restoration and Monitoring Plan for the Balls Canyon Fire area in consultation with experts from UNR.	8	24	24	-	-	-	P
	TASK 3.1.2: Establish cooperative agreements with SVRCD, UNR, USFS, BLM and other agencies to assist with securing funding, implementing, and monitoring for the Balls Canyon Fire Restoration Plan.	I	I	-	-	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 3.1.3: Develop maps identifying critical areas where emergency revegetation or mechanical or structural measures may be necessary to prevent excessive erosion or flooding post-fire. Implement such measures as appropriate, following fire or fire suppression.	-	-	10	-	-	-	P
	TASK 3.1.4: Develop maps identifying areas of sensitive resources that may require specific management actions for appropriate prescribed burning activities (e.g., season-specific burning of invasive plant species).	-	-	I	-	-	-	P
	TASK 3.1.5: Implement tasks described in the Biological Elements and weed management plan (App. F) to manage the introduction and spread of invasive plant species that may increase fire hazards (e.g., cheatgrass, perennial pepperweed).	-	-	I	60	-	60	P
GOAL 3.2: Control invasive plants, and promote native plant restoration and healthy ecological functions.	TASK 3.2.1: Implement and monitor the effectiveness of the HJWA Weed Management Plan (App. F)	-	I	I	I	-	-	A
	TASK 3.2.2: Implement and monitor the grazing management plan for HJWA (App. H)	-	I	I	I	-	-	A
GOAL 3.3: Provide opportunities for range management research and education.	TASK 3.3.1: Work with grazing lessee to design and implement a grazing management and monitoring plan that meets CDFG habitat management goals, and considers the economic goals of the cattle operator (App. H).	I	I	I	I	-	-	A
	TASK 3.3.2: Continue to work with SVRCD for oversight of the grazing lease.	I	I	I	I	-	-	A
	TASK 3.3.3: Consider an MOU with UC Cooperative Extension for use of facilities for student agricultural research projects.							
4. Vector Control Element								
GOAL 4.1: Maintain or enhance habitat values for waterfowl and other wildlife while protecting humans, domestic animals and wildlife from vector-borne diseases such as West Nile virus, and EBA; and minimize financial costs to CDFG.	TASK 4.1.1: As needed, implement a mosquito control plan that applies the BMPs identified in CDFG's "Technical Guide to Best Management Practices for Mosquito Control in Managed Wetlands".							P
	TASK 4.1.2: Post tick identification and Lyme disease prevention signs at public access points to the Wildlife Area.							A
	TASK 4.1.3: Support academic research efforts to identify and control EBA and other diseases that could affect wild ungulates and livestock.							P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
5. Water Management Element								
GOAL 5.1: Maintain and enhance the variety and diversity of riparian and wet meadow habitats at the HJWA for optimal wildlife habitat.	TASK 5.1.1: Coordinate with neighbors to develop water for wildlife (guzzlers and troughs) outside the riparian corridors.	-	-	I	I	-	-	P
	TASK 5.1.2: Install water guzzlers for enhancement of wildlife habitat, making sure some water is available at ground level for smaller species. Ensure that each water source has protective measures in place to prevent the accidental drowning of small wildlife.	-	-	I	I	-	I	P
	TASK 5.1.3: Use GPS to map the location and types of all wells and other water sources and include the data in the GIS database.	-	-	-	I	-	I	A
	TASK 5.1.4: Research and obtain additional water rights for riparian habitat restoration efforts (V3).	I	-	-	-	-	-	P
6. Access Roads, Parking and Trails Element								
GOAL 6.1: Maintain safe roads for department and public use, and emergency access.	TASK 6.1.1: Inventory existing roads to evaluate whether they provide sufficient access for management needs; identify erosion and sedimentation problems, and road hazards.	-	-	I	I	-	-	P
	TASK 6.1.2: Evaluate alternative road crossings for Long Valley Creek to minimize erosion and sedimentation.	-	-	I	I	-	-	P
	TASK 6.1.3: Ensure that planned measures to improve access across creeks and streams are properly permitted.	-	-	I	-	-	-	P
	TASK 6.1.4: Stabilize the Long Valley Creek crossing using accepted BMPs.	-	-	24	40	-	40	P
	TASK 6.1.5: Where feasible, install physical barriers (e.g., boulders) at points frequently used to illegally access or traverse department property. Select barriers that are consistent with the rural character of the region and the aesthetics of the natural environment in the Wildlife Area.	-	-	-	20	-	20	P
GOAL 6.2: Provide manageable public parking areas and prevent unauthorized use.	TASK 6.2.1: Clearly identify the public parking facility, inside the main access gate.	-	-	I	I	-	-	A
7. Signage, Fencing and Gates Element								
GOAL 7.1: Add, improve, and maintain existing structures and signs for resource protection, education, safety,	TASK 7.1.1: Inform users of the location and boundaries of HJWA by providing locator signs and property boundary signs at major access points.	-	-	I	20	-	-	P
	TASK 7.1.2: Inform users regarding compatible public uses of HJWA by providing bulletin boards at the formal entrance to the Wildlife Area (IVD).	-	-	I	I	-	-	P

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		AWB	BIO	WHS	WHA	FGW	SA	
and appropriate public use of the wildlife areas.	TASK 7.1.3: Select signage locations and styles that are consistent with the rural character of the region and the aesthetics of the natural environment in the Wildlife Area.	-	-	I	I	-	-	P
	TASK 7.1.4: Annually survey existing fencing and gates and repair where necessary.	-	-	-	I	-	I	A
	TASK 7.1.5: Identify and remove obsolete internal fencing materials.	-	-	-	I	-	I	P
	TASK 7.1.6: Annually inventory existing boundary signage, and install new signs where necessary.	-	-	-	I	-	I	A
	TASK 7.1.7: Install a kiosk or bulletin board with wildlife area maps and Title 14 regulations, safety information, and interpretive material at appropriate public access points (IVD).	-	-	16	I	-	I	P
	TASK 7.1.8: Implement a grazing management plan that includes pasture rotation and exclusionary fencing to protect riparian and wetland resources (App. H).							A
	TASK 7.1.9: Regularly inspect deer fencing and work with CalTrans to make repairs as needed.	-	-	-	I	-	I	P
	TASK 7.1.10: Repair headcuts and gullies that provide passage for deer under the deer-proof fence. Incorporate passageways for smaller animals that are not large enough for deer.	-	-	-	I	-	I	P
	TASK 7.1.11: Work with neighbors to maintain fencing to prevent livestock from trespassing onto the Wildlife Area.	-	-	I	I	-	I	P
	TASK 7.1.12: Investigate the need for a double-width cattle guard at the main entrance gate to preclude deer accessing the highway when the gate is left open or damaged.	I	I	I	I	-	-	P
8. Structures Element								
GOAL 8.1: Optimize the use of the existing structures at the HJWA.	TASK 8.1.1: Regularly inspect and maintain the residences, office, storage buildings, sheds, and related structures in optimum working condition to optimize the efficient use of the operating budget, and to ensure the health, safety, and reasonable accommodation of department staff and others using the site.	I	I	I	I	-	I	A
	TASK 8.1.2: Identify and prioritize specific facility needs to carry out research, monitoring and education goals for the HJWA.	I	I	I	I	-	I	P
	TASK 8.1.3: Review historical structures on property as discussed in the Cultural Resource Element (IVF).	-	-	I	I	-	-	P

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GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
9. Equipment Element								
GOAL 9.1: Maintain all equipment, vehicles, and facilities in optimum working condition to maximize the efficient use of the wildlife area’s operating budget.	TASK 9.1.1: Regularly inspect and service all heavy equipment and vehicles.	-	-	-	I	-	-	P
	TASK 9.1.2: Regularly inspect and maintain fuel tanks to comply with state and federal laws.	-	-	-	I	-	-	P
	TASK 9.1.3: Establish and maintain cooperative agreements with CalTrans, SVRCD, USFS and BLM to provide and operate equipment needed to maintain grounds and facilities at HJWA.	I	I	I	I	-	-	A
GOAL 9.2: Monitor weather conditions that may affect management of the Wildlife Area.	TASK 9.2.1: Assess the feasibility of installing a weather station at the HJWA office and coordinate data sharing with the National Weather Service Forecast Office in Reno and UNR.	-	-	4	-	-	-	P
IVF: CULTURAL RESOURCE ELEMENTS								
1. Cultural Resource Protection Element								
GOAL 1.1: To the extent feasible, preserve and catalog all cultural resources that have yielded or have the potential to yield information important to the prehistory or history of the HJWA, and the region that otherwise would meet significance criteria according to the California Register of Historical Resources.	TASK 1.1.1: Complete and submit existing site records for the newly identified archaeological sites to the State Historic Preservation Officer to establish eligibility, and submit any culturally significant resources that may be eligible for inclusion in the National Register of Historic Places (NRHP) or the CRHR.	-	-	16	-	-	-	P
	TASK 1.1.2: Complete a comprehensive cultural resources survey of the property. Approximately 20% of the Hallelujah Junction Wildlife Area has been surveyed to date. Identify areas that have not yet been surveyed for cultural resources. In general, cultural surveys that are more than five years old should be re-conducted. In part, this is to monitor the condition of known archaeological resources, as well to identify any previously unrecognized sites.	-	I	I	-	-	-	P
	TASK 1.1.3: Create a detailed, comprehensive map of known archaeological resources for management purposes.	-	-	I	-	-	-	P
	TASK 1.1.4: Treat all sites, until further evaluation occurs, as potentially important. Public use areas should avoid important archaeological sites.	-	I	I	-	-	-	P
	TASK 1.1.5: Make determinations of eligibility (formal resource evaluation), using criteria set forth by the CRHR or the NRHP, of all identified cultural resources.	-	I	-	-	-	-	P

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
	TASK 1.1.6: Conduct cultural resource surveys before ground-disturbing activities (e.g., any new construction, road grading, or extensive ecological restoration). If necessary, conduct pre-construction archaeological testing and data recovery if resources are discovered. Prepare an "inadvertent discovery plan" to be utilized during implementation of any project involving ground disturbance.	-	I	-	-	-	-	P
	TASK 1.1.7: When facility improvements or restoration efforts are proposed that may affect significant cultural resources, consult the CEQA guidelines and/or Section 106 of the National Historic Preservation Act (if there is federal involvement) for guidance on compliance with regulations.	-	I	-	-	-	-	P
	TASK 1.1.8: Support research efforts to document the history of human activities at HJWA	-	-	I	-	-	-	P
	TASK 1.1.9: As funding allows, prepare a Cultural Resources Treatment Plan that can be used to predict where buried properties are likely concentrated, and provide a uniform approach to archaeological monitoring, test excavation, and data recovery, as well as providing an overarching management guideline.	-	I	-	-	-	-	P
	TASK 1.1.10: Develop an interpretive plan for the area.	-	24	-	-	-	-	P
2. Native American Access Element								
GOAL 2.1: Support use of the HJWA by Native Americans for traditional activities, such as gathering native plant materials for cultural purposes.	TASK 2.1.1: Contact appropriate local Native American representatives to determine if there are any traditional cultural properties located within the Hallelujah Junction Wildlife area.	I	-	-	-	-	-	P
	TASK 2.1.2: Work with native peoples who request access for traditional activities to determine the purpose of and need for access and/or collections within the HJWA.	I	-	-	-	-	-	P
	TASK 2.1.3: Develop access plans, including standard liability clauses, for issuing permits to Native peoples whose activities are compatible with the goals of this plan	I	-	-	-	-	-	P
	TASK 2.1.4: Allow limited gathering of materials for ceremonial, educational and craft purposes by native people.	I	-	-	-	-	-	P
IVG: ADMINISTRATION ELEMENTS								
1. Record-Keeping Element								
GOAL 1.1: Maintain existing data and agreements	TASK 1.1.1: Maintain accurate financial records regarding expenditures, staff, maintenance, funding, and other administrative duties. Provide training as needed to implement this task.	-	20	40	-	-	-	A

V. OPERATIONS AND MAINTENANCE SUMMARY
D. Operations and Maintenance Tasks

GOALS	TASKS	ANNUAL STAFF HOURS						FREQ
		AWB	BIO	WHS	WHA	FGW	SA	
concerning the management and resources of the Wildlife Area.	TASK 1.1.2: Administer the renewal, modification, and termination of grazing allotments and timber sales, as necessary.	-	I	I	-	-	-	P
	TASK 1.1.3: Maintain cooperative agreement with SVRCD for oversight of grazing leases.	I	I	I	-	-	-	A
	TASK 1.1.4: Store cultural resource data in a secured area and restrict public access.	I	-	I	-	-	-	A
	TASK 1.1.5: Regularly update GIS data sources as information becomes available.	-	30	I	20	-	-	A
	TASK 1.1.6: Document facilities need in a CDFG maintenance and capital outlay database.	-	-	I	-	-	-	A
	TASK 1.1.7: Prepare annual monitoring and periodic status reports as defined in V.	-	I	I	-	-	-	A
	TASK 1.1.8: Actively pursue funding to help facilitate implementation of the LMP.	I	I	I	-	-	-	P
2. Resource Coordination Element								
GOAL 2.1: Establish and maintain positive relationships with neighbors, lessees and user groups to address wildlife area management issues.	TASK 2.1.1: Meet or correspond with local landowners and user groups as needed to maintain communication about the management activities at HJWA.	I	I	I	-	-	-	P
	TASK 2.1.2: Promote educational opportunities, recruit volunteers and foster a sense of stewardship regarding the area.	-	I	-	-	-	-	P
GOAL 2.2: Develop regular communication procedures with federal, state and local agencies regarding plans and projects that may affect habitats at HJWA.		I	-	-	-	-	-	P
TOTALS*		224	1300	550	1000	200	1200	

* Total hours shown for the tasks do not match totals at bottom because some tasks are duplicated or included with others.

KEY TO TABLE V-c

I = Included in hours for another closely related task A = Annually P = Periodically

AWB = Associate Wildlife Biologist — responsible for overall site management, administration, and coordination with other agencies and groups

BIO = Biologist — responsible for planning and directing wildlife species monitoring activities, habitat management, and management coordination

WHS = Wildlife Habitat Supervisor — implementation of wildlife habitat management activities, development of survey methods, and ability to identify plants and wildlife in the field

WHA = Wildlife Habitat Assistant — responsible for tasks such as operation and maintenance of equipment, weed control, facilities maintenance, monitoring and maintenance

FGW = Fish And Game Warden — responsible for law enforcement

SA = Seasonal Aides/Scientific Aides — responsible for executing routine operations and maintenance tasks under supervision of permanent personnel

E. Future Revisions to This Plan

The HJWA Land Management Plan reflects the best information available at this time; however, the information within will eventually become outdated and new information and ecological management techniques will be available and standardized. New information may include:

- Documented threats to biotic communities, habitats or wildlife species.
- Feedback generated by monitoring management activities (adaptive management).
- Scientific research that directs improved management techniques.
- New legislative or policy direction.

Implementation of a successful adaptive management plan requires a periodic reassessment of identified tasks and goals (to ensure that the overall goals are being met) and an integration of new techniques and scientific information. Unfortunately, this aspect of adaptive management is often neglected because it seems too involved, too cumbersome or too expensive. To address this problem, this section presents a hierarchy of revision procedures based upon the magnitude of the change: minor or major.

If the appropriate procedure for a proposed revision is not apparent, the regional manager (in consultation with CDFG's Lands Program) will determine which to use. Both minor and major revisions to the LMP will require appropriate consultation within the North Central Region and the Lands Program, coordination and consultation with other agencies, and an appropriate level of public outreach.

Minor Revisions

Minor LMP revisions may include the addition of new property to the Wildlife Area, the adoption of limited changes to the goals and tasks as a result of adaptive management, new scientific information or minor policy or legislative changes. The following revisions qualify as minor:

- The revision(s) does not affect the overall purposes of the LMP.
- The revision(s) does not physically alter the environment beyond what has already been evaluated in the current LMP; therefore, it does not require additional CEQA analysis.

Minor revisions to the LMP may be prepared by wildlife area staff or by using other CDFG departmental resources. The regional manager must approve these revisions.

Major Revisions or New Comprehensive Management Plan

New policy directions or management plans will require procedures comparable to the initial LMP planning process, and proportionate to the level of policy change that is proposed. The following revisions are categorized as major:

- Revision(s) that could substantially change the LMP.
- Revisions that propose a completely new LMP.
- Revisions that physically alter the environment of the Wildlife Area beyond what was analyzed in the current LMP.
- Management actions that require additional CEQA documentation or environmental permits and approvals.

A major revision or a new plan requires the recommendation of the regional manager, and may be prepared using available departmental resources. The director of the department must approve major revisions.

Recommended Five-Year Review

As part of the adaptive management planning cycle, a complete review of the achievements of the goals of the LMP should be prepared every five years following the date of adoption of the LMP or subsequent revisions. A status report documenting this review should, at minimum, include:

- Evaluation of the achievement of the purposes and goals of this LMP.
- Evaluation of the completion or annual completion, as appropriate, of each task contained in this LMP and those that may be added between each review period.
- Fiscal evaluation of the program.
- Evaluation of the effectiveness of CDFG's coordination efforts with local governments, and other property management and regulatory agencies involved in the HJWA.
- Development of important new scientific information that has bearing on the management of the Wildlife Area.
- Recommendations for revisions to incorporate new information into the LMP and improve its effectiveness.

The status report should be prepared or coordinated by the area manager. It should be submitted to North Central Region for review and comment, approved by the regional manager, and submitted to the director of the California Department of Fish and Game. This report should serve as a basis for appropriate adjustments to ongoing management practices and for revisions of the Hallelujah Junction Wildlife Area land management plan.